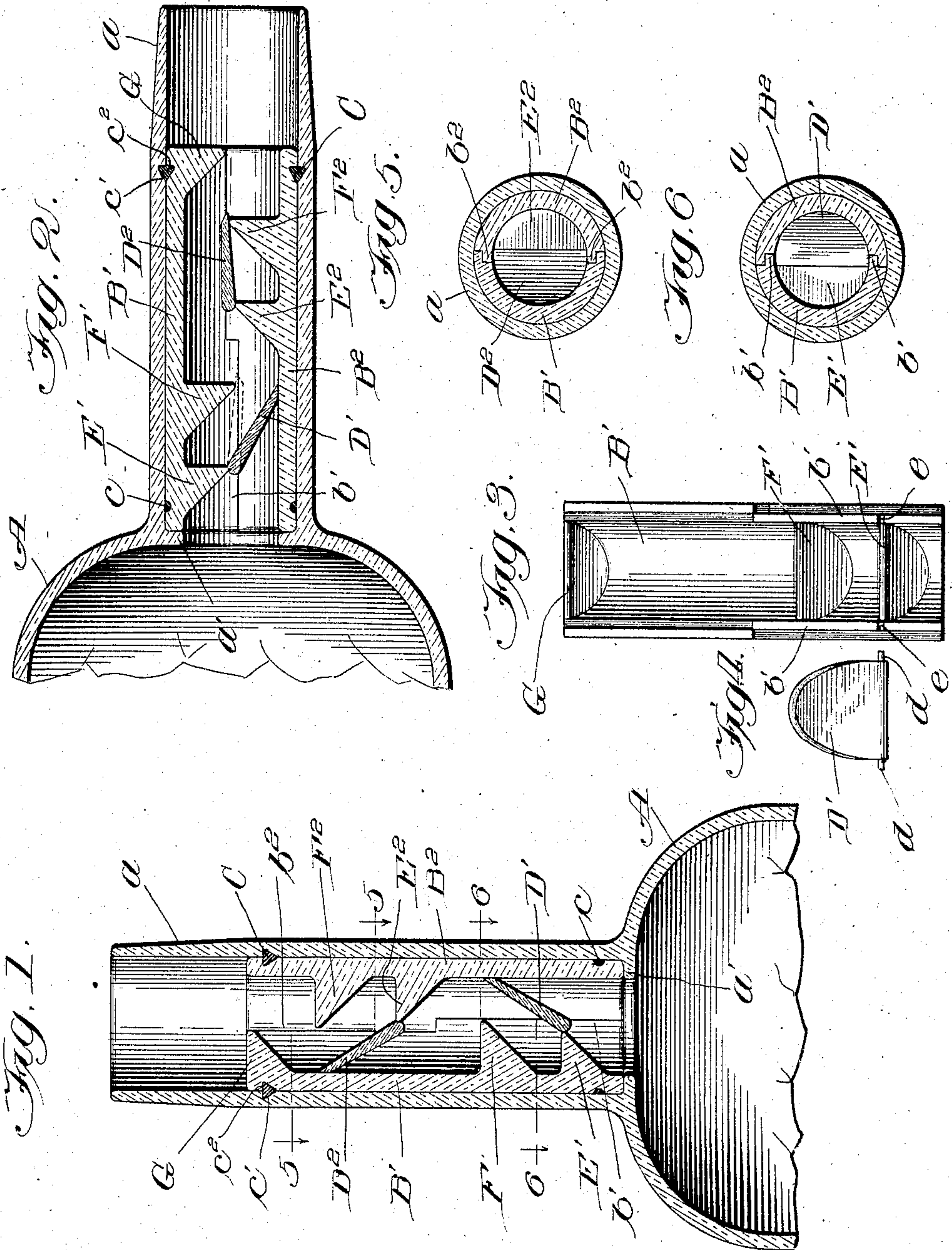


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H. J. GUMBINSKY.  
NON-REFILLABLE BOTTLE.  
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# UNITED STATES PATENT OFFICE.

HYMAN J. GUMBINSKY, OF CHICAGO, ILLINOIS.

## NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 790,049, dated May 16, 1905.

Application filed December 12, 1904. Serial No. 236,425.

*To all whom it may concern:*

Be it known that I, HYMAN J. GUMBINSKY, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have  
 5 invented a certain new and useful Improvement in Non-Refillable Bottles; and I declare the following to be a full, clear, and exact description of the invention, such as will enable  
 10 others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates in general to bottles, and more particularly to valved or non-refill-  
 15 able bottles.

In order to prevent bottles from being re-filled after their original contents have been removed, it is desirable to provide within the neck of the bottles valve mechanism which  
 20 will permit the contents to flow out, but which will close the bottles so that they cannot be refilled without forcibly breaking the valve mechanism.

The primary object of my invention is to  
 25 provide a non-refillable bottle the valve mechanism of which may be made of glass or porcelain and may be readily inserted in and secured within the neck of the bottle.

A further object of my invention is to pro-  
 30 vide a non-refillable bottle which will be simple in construction, inexpensive in manufacture, and efficient in use.

My invention, generally described, consists in a tube composed of two vertical portions  
 35 having overlapping edges and adapted to fit closely within a bottle-neck with its lower end resting on a rib projecting inwardly around and formed integrally with the neck of the bottle, a gasket located within regis-  
 40 tering grooves formed on the outer surface of the tube and inner surface of the bottle-neck for retaining the tube in place, a plurality of pivoted valves within said tube adapted to swing outwardly and located at differ-  
 45 ent points between the ends of the tube, laterally-projecting pintles on the valves journaled in recesses extending from the vertical meeting edges of the two parts of the tube, and an obstruction formed integrally with

one-half of the tube, at the top thereof, to pro- 50  
 tect the upper valve.

My invention will be more fully described hereinafter with reference to the accompanying drawings, in which the same is illustrated in a convenient and practical form, and in 55  
 which—

Figure 1 is a vertical sectional view through the neck of a bottle, showing my improvement located therein; Fig. 2, a view similar to Fig. 1, indicating the bottle in position to 60  
 permit the liquid therein to flow out; Fig. 3, an elevational view of one of the two vertical portions of the tube removed from the bottle-neck; Fig. 4, a detail view of one of the valves; Fig. 5, a sectional view on line 5 65  
 5, Fig. 1; and Fig. 6, a sectional view on line 6 6, Fig. 1.

The same reference characters are used to designate the same parts in the several figures 70  
 of the drawings.

Reference character A indicates the upper portion of a bottle, and *a* the bottle-neck. The bottle may be of any usual construction, except that an inwardly-projecting rib *a'* is provided around the neck of the bottle, preferably adjacent to the lower end thereof. 75  
 This rib may be formed integrally with the bottle when the latter is made.

Located within the neck of the bottle and resting at its lower end upon the rib *a'* is a 80  
 tube formed of two vertical portions B' and B<sup>2</sup>. The adjoining edges of the two portions of the tube are provided with interlocking ribs and grooves to insure a close union between the same. The part B' is provided with 85  
 vertical inner grooves throughout the upper half thereof, in which are received vertical ribs *b*<sup>2</sup> on the portion B<sup>2</sup> of the tube, while the lower half of the part B' is provided with the ribs *b'*, which project into vertical grooves 90  
 formed on the inner surface of the adjacent edges of the part B<sup>2</sup>. In order that the tube may be securely retained within the neck of the bottle and against the rib *a'*, a gasket C, preferably of rubber, is placed around the 95  
 upper end of the tube, within a groove *c*<sup>2</sup> therein, and when the tube is forced downwardly within the bottle-neck so that its



lower end rests against the rib  $a'$  the gasket engages a groove  $c'$ , formed on the interior of the bottle-neck, thereby securely preventing the tube from removal. In order that the tension of the gasket C may not separate the two portions of the tube at their lower ends, a small gasket  $c$  is located around the lower end of the tube and seated within a groove, as shown in Figs. 1 and 2. Located within the tube are two or more hinged valves adapted to swing outwardly to permit the contents of the bottle being poured out, but which close tightly against the interior of the tube to prevent fluid from being poured into the bottle.  $D'$  designates one of the valves, which is provided with laterally-projecting pintles  $d$ , which are received in recesses  $e$ , formed in the vertical flanges  $b'$  of the part  $B'$  of the tube. When the two parts of the tube are placed together, the pintles of the valve are retained in the notches by reason of the interlocked engagement between the grooves and ribs on the edges of the two parts of the tube. The valve  $D'$  is pivoted in close contact with a projection  $E'$ , formed integrally with the portion  $B'$  of the tube, near the lower end thereof. In order that the valve  $D'$  may be prevented from swinging so far outwardly that it will not fall by gravity into closed position, a projection  $F'$ , formed integrally with the portion  $B'$  of the tube, projects into the path of movement of the upper end of the valve  $D'$ . A similar valve  $D^2$  is pivoted in notches formed in the ribs  $b^2$  of the portion  $B^2$  of the tube in a manner above described in connection with the valve  $D'$ . A projecting portion  $E^2$ , formed integrally with the part  $B^2$  of the tube, extends to and closely engages the lower edge of the valve  $D^2$ , while the projection  $F^2$  serves to limit the outward movement of the valve  $D^2$ , so as to insure its swinging downwardly into its closed position when the bottle occupies a vertical position. An obstruction  $G$  is formed integrally with the upper end of the part  $B'$  of the tube, which serves to protect the upper valve  $D^2$  and prevent the same from being held open by the insertion of a wire or other device. By providing the upper portion of one section with vertical ribs on its edge and the lower portion of the other section with such vertical ribs it is possible to pivot the valves in vertical alinement and at the same time permit them to swing in opposite directions, thereby forming a circuitous passage-way through the neck of the bottle to minimize the danger of the bottle being refilled by retaining the valves in open positions. By reference to Fig. 2 it will be seen that when the bottle is in a position to cause one valve to swing open the other valve continues closed, so that liquid could not be poured into the bottle, but liquid within the bottle would flow out by raising the closed valve into the position shown in dotted lines.

By the construction of my improved valve mechanism for bottles it is possible to entirely avoid the use of metal and to form all of the parts of glass, china, porcelain, or any material which is not attacked by the fluid contents of bottles. It will be further observed that my improved non-refillable bottle is exceedingly simple in construction, as it comprises only four parts in addition to the bottle and the retaining-gasket.

While I have described more or less precisely the details of construction, I do not wish to be understood as limiting myself thereto, as I contemplate changes in form, the proportion of parts, and the substitution of equivalents as circumstances may suggest or render expedient without departing from the spirit of my invention.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a non-refillable bottle, the combination with a tube composed of vertical sections having recesses formed in their meeting edges, of means for retaining said tube within the neck of a bottle, a valve pivoted within said tube, pintles projecting from said valve into the recesses formed in the meeting edges of the sections of said tube, and a stop formed integrally with one of the sections of the tube for limiting the outward movement of said valve.

2. In a non-refillable bottle, the combination with a tube composed of vertical sections having interlocked ribs and grooves on their meeting edges, said ribs having recesses formed therein, of means for retaining said tube within the neck of a bottle, a valve pivoted within said tube, and pintles projecting from said valve into the recesses formed in the ribs of the interlocking edges of the sections of the tube.

3. In a non-refillable bottle, the combination with a tube composed of vertical sections, of means for retaining said tube within the neck of a bottle, inwardly-extending projections formed integrally with the sections of said tube, and valves pivoted adjacent the inner edges of said projections.

4. In a non-refillable bottle, the combination with a tube composed of vertical sections, of means for retaining said tube within the neck of a bottle, inwardly-extending projections formed integrally with the sections of said tube, valves pivoted adjacent the inner edges of said projections, and an obstruction formed integrally with a section of said tube at the top thereof to protect the upper valve.

In testimony whereof I sign this specification in the presence of two witnesses.

HYMAN J. GUMBINSKY.

Witnesses:

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